

REMARKS

Claims 1-10 and 34 are now pending in the application. Claims 1, 2, and 9 are amended herein. Support for the amendment to claim 1 can be found at least in Figure 1 wherein the first and second flow paths are shown as being distinct and separate from one another and the devices therein modulating the anode reactant feed stream which flows into the associated anode reactant section through the associated inlets. Support for the amendment to claim 2 can be found at least in Figure 5 wherein the fourth flow path is shown as being operable to supply an anode reactant feed stream to the third flow path without the feed stream flowing through an anode section prior to reaching the third flow path. Claim 9 has been editorially amended to add a period at the end of the claim. No new matter is added. The Examiner is respectfully requested to reconsider and withdraw the rejections in view of the amendments and remarks contained herein.

REJECTION UNDER 35 U.S.C. § 112

Claims 1-10 and 34 stand rejected under 35 U.S.C. § 112, first paragraph, as being indefinite for failing to particularly point and distinctly claim the subject matter which Applicants regard as the invention. This rejection is respectfully traversed.

Applicants are unaware of why the Examiner has made the instant rejection. Particularly, in both claims 1 and 2 the third flow path is stated as connecting an outlet of the first anode section to an outlet of the second anode section without passing through an anode section, the third flow path thereby providing flow communication between the first and second anode sections through the outlets. Thus, in each of these claims the third flow path connects the outlets of the first and second anode

sections. The third flow path performs this connection without itself passing through an anode section. As shown in Figures 1 and 5, flow path 52 extends from outlet 34 of one anode section to an outlet 37 of another anode section without the flow path 52 flowing through an anode section. Furthermore, flow path 52 does provide flow communication between the first and second anode sections through the outlets, as indicated by the arrows in flow path 52. The fact that flow can go in and out of the anode sections via the third flow path 52 does not change the fact that third flow path 52 itself does not flow through an anode section and, rather, connects the outlets of the first and second anode sections. Thus, it is respectfully submitted that the Examiner has misunderstood the subject matter of claims 1 and 2 and has inappropriately rejected the claims. Accordingly, withdrawal of the instant rejection is requested.

Claims 1-10 and 34 stand rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention. This rejection is respectfully traversed.

Applicants respectfully submit that the Examiner is misinterpreting the subject matter of claims 1 and 34. In particular, in these claims it is indicated that the valve does not impede flow communication between the outlets of the first and second anode sections through the third flow path regardless of an operational state of the valve. The “operational state” of the valve can be any state at which the valve can operate. For example, some valves may be simple open-and-close valves and the operational state would include both the valve being open and closed. Other valves may have intermediate operational states wherein the valve is not 100% open nor 100% closed and, thus, the “operational state” would include such a position. As such, Applicants

respectfully submit that the proper interpretation of “operational state” is to be any possible operational state of the valve. That is, as plainly stated in the claims, “operational state” means exactly that—an operational state. Additionally, the subject matter of claims 1 and 34 further indicates that the valve does not impede flow communication regardless of an operational state of the valve. As such, the flow communication between the outlets of the first and second anode sections through the third flow path can proceed no matter what position or operational state the valve is in. Thus, it is respectfully submitted that the instant rejection is inappropriate and Applicants respectfully request the instant rejection be withdrawn.

REJECTION UNDER 35 U.S.C. § 102

Claims 1-9 and 34 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Cheron (U.S. Pat. No. 4,243,731). This rejection is respectfully traversed.

Claim 1 is not anticipated by the Cheron reference because the Cheron reference fails to disclose the first and second flow paths along with the first and second devices therein as called for in claim 1. Rather, the Cheron reference discloses that each chamber 10, 20, 30, etc. can receive an anode reactant stream by either passing through the regulating means 12, 22, 32 or through the associated bypass circuit 14, 24, 34, etc. Thus, in the Cheron reference there are two flow paths for each anode section (chamber) through which two separate anode reactant feed streams can be supplied to the associated chamber. Neither regulating means 12, 24, 32 nor bypass circuit 14, 24, 34 are operable to modulate an entire flow of the only anode reactant stream flowing into the associated chamber through the inlet orifices. Rather, regulating means 12, 22,

32 and bypass circuits 14, 24, 34 are only operable to regulate the reactant feed streams flowing therethrough, but these feed streams are not the only feed streams flowing into the associated chamber 10, 20, 30 through the inlet orifices. Accordingly, for at least this reason it is respectfully submitted that claim 1 is not anticipated by and is patentable over the Cheron reference.

Claim 2 is not anticipated by and is patentable over the Cheron reference because the Cheron reference fails to disclose a fourth flow path which is operable to supply a third anode reactant stream to the third flow path without the third anode reactant stream flowing through an anode section prior to reaching the third flow path. Rather, the Cheron reference discloses that the anode effluents from each of the chambers 10, 20, 30, etc. can flow out of their respective outlet orifices 13, 23, 33, etc. and into a discharge pipe 3 which communicates with the various outlet orifices. The Cheron reference, however, does not disclose a fourth flow path that supplies an anode reactant stream to discharge pipe 3 without the anode reactant stream flowing through an anode section prior to reaching discharge pipe 3. Thus, it is respectfully submitted that the Cheron reference fails to disclose the fourth flow path as called for in claim 2. For at least this reason it is respectfully submitted that claim 2 is not anticipated by and is patentable over the Cheron reference.

Claims 3-10 and 34 all depend from one of claims 1 and 2 and, therefore, for at least the same reasons stated above with reference to claims 1 and 2 are also not anticipated by and are patentable over the Cheron reference. Accordingly, withdrawal of the instant rejection is requested.

Claims 1-9 and 34 stand rejected under 35 U.S.C. § 102(e) as being anticipated by Skala et al. (U.S. Pat. No. 6,911,277). This rejection is respectfully traversed.

Claim 1 is not anticipated by the Skala et al. reference because the Skala et al. reference fails to disclose the first and second flow paths and the associated first and second devices which are operable to modulate an entire flow of the anode reactant feed streams that flow through the associated flow paths. Rather, the Skala et al. reference appears to disclose a fuel cell stack having internal valving arrangements that can allow the flow through the various sections of the fuel cell stack to be altered to achieve desired flow characteristics. The valves disclosed therein can alter the flow pattern through the fuel cell sections such that all fuel cell sections can operate in parallel, as shown in Figure 8, or can group various fuel cell sections to flow in parallel with those various sections being in series with other sections, such as the three-pass configurations shown in Figures 9 and 10 and the five-pass configurations shown in Figure 11. These various configurations and mechanizations, however, do not provide for two distinct and separate flow paths associated with first and second anode sections and through which the only reactant feed streams flowing into the first and second anode sections through the respective inlets travel and the entirety of the feed streams being modulated by the associated first and second devices.

Rather, the anode reactant stream flowing into inlet manifold chamber 36 is a single anode reactant feed stream which ends up flowing through all of the fuel cell sections through their inlet. This is true regardless of the position of valves 72a-e and valves 74a-e. For example, in Figure 8, valves 72a-e are not in separate flow paths that are distinct from one another nor are they operable to modulate an entire flow of the

anode reactant feed streams that flow through the non-existent separate and distinct first and second flow paths. Rather, they are all in a single flow path through which a single anode reactant feed stream is supplied to inlet manifold chamber 36. With the possible configurations allowed by the mechanization any second anode reactant feed stream that might possibly be controlled by a second valve 72a-e, 74a-e would not be distinct and separate from the first anode reactant feed stream. Rather, it would merely be a continuation of that feed stream as the mechanization only allows for the placing of various anode sections in series with one another. Accordingly, for at least this reason it is respectfully submitted that the Skala et al. reference fails to anticipate the subject matter of claim 1.

Claim 2 is not anticipated by the Skala et al. reference because the Skala et al. reference fails to disclose the fourth flow path called for in claim 2. In rejecting this claim, the Office Action fails to address the fourth flow path called for in claim 2. Rather, the rejection is very conclusory in nature and fails to point out or identify components of the Skala et al. reference that correspond to the various subject matter of the claim. Furthermore, Applicants are unable to find any type of fourth flow path in the Skala et al. reference that allows a third anode reactant stream to be supplied to a third flow path without the third anode reactant stream flowing through an anode section prior to reaching the third flow path. As such, it is respectfully submitted that the Skala et al. reference fails to anticipate claim 2.

Claims 3-10 and 34 all depend from one of claims 1 and 2 and, therefore, for at least the same reasons stated above with reference to claims 1 and 2 are also not

anticipated by the Skala et al. reference. Accordingly, withdrawal of the instant rejection is requested.

If the Examiner wishes to maintain or make new rejections of the instant claims, the Examiner is respectfully requested to point out with more specificity where each and every element of the claims is shown in the references used to make the rejection. In the instant rejections, the explanation is very cursory and provides Applicants with great difficulty in ascertaining how the Examiner is interpreting the references relative to the subject matter of the claims. Thus, in order to further advance prosecution of this application toward issuance of a patent, Applicants respectfully request a more thorough and precise explanation from the Examiner if the Examiner wishes to maintain or make new rejections.

REJECTION UNDER 35 U.S.C. § 103

Claim 10 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Cheron. Claim 10 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Skala et al. These rejections are respectfully traversed.

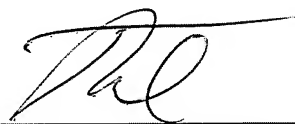
Notwithstanding, claim 10 depends from claim 1 and, therefore, for at least the same reasons stated above with reference to claim 1 is also patentable. Thus, withdrawal of the instant rejections is requested.

CONCLUSION

It is believed that all of the stated grounds of rejection have been properly traversed, accommodated, or rendered moot. Applicants therefore respectfully request that the Examiner reconsider and withdraw all presently outstanding rejections. It is believed that a full and complete response has been made to the outstanding Office Action, and as such, the present application is in condition for allowance. Thus, prompt and favorable consideration of this amendment is respectfully requested. If the Examiner believes that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at (248) 641-1600.

Respectfully submitted,

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